



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

H1A

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,671	12/14/2005	Rodney A. Mattson	PHUS030188US	2334
38107	7590	04/03/2007		
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			EXAMINER	
595 MINER ROAD			YUN, JURIE	
CLEVELAND, OH 44143			ART UNIT	PAPER NUMBER
			2882	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/560,671	Applicant(s) MATTSON, RODNEY A.	
	Examiner Jurie Yun	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The preliminary amendment filed 12/14/05 has been entered.

Claim Objections

2. Claim 18 is objected to because of the following informalities: it appears as though claim 18 should depend on claim 15, and has been treated as such.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to a judicial exception; as such, pursuant to the Interim Guidelines on Patent Eligible Subject Matter (MPEP 2106), the claims must have either physical transformation and/or a useful, concrete and tangible result. The claims fail to include transformation from one physical state to another. Although the claims appear useful and concrete, there does not appear to be a tangible result claimed. Merely reconstructing a pilot scan would not appear to be sufficient to constitute a tangible result, since the outcome of the reconstructing step has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application can be realized. As such, the subject matter of the claims is not patent eligible.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum (USPN 6,198,790 B1) in view of Sata (USPN 5,412,702).

6. With respect to claims 1 and 13, Pflaum discloses a diagnostic imaging system comprising: a means (table, 5) for supporting a subject (4); a means for translating the supporting means (5) through an examination region (means not shown but this is necessary to position the subject); an x-ray source (11); a means (10) for rotating the x-ray source around the examination region (6); a means for controlling the x-ray source to pulse the x-ray source at a selected angular location around the subject to transmit radiation through the subject (column 2, lines 19-23); a means (13) for detecting transmitted radiation, which has passed through the subject; and a means (17) for reconstructing a pilot scan of the subject from the radiation detected when the x-ray source was pulsed at the selected angular location. Pflaum discloses all of the elements but does not specifically disclose controlling the x-ray source to pulse the x-ray source at a selected angular location around the subject to transmit radiation through the subject *as the subject is translated through the examination region*, and a means for reconstructing a pilot scan of the subject from the radiation detected when the x-ray source was pulsed at the selected angular location *as the subject was*

translated through the examination region. Pflaum is silent as to whether or not the subject is translated during the scan. Sata discloses irradiating the subject at angular locations around the subject as the subject is translated through the examination region, and reconstructing a pilot scan of the subject from the radiation detected as the subject is translated through the examination region (column 2, lines 21-39). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the subject in Pflaum translated through the examination region during the scan, in order to speed up scan time.

7. With respect to claim 2, Pflaum discloses the radiation controlling means includes an x-ray source controller (15).

8. Claims 3-9 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum (USPN 6,198,790 B1) in view of Sata (USPN 5,412,702) as applied to claims 1 and 13 above, and further in view of Ozaki (USPN 6,763,082 B2).

9. With respect to claims 3 and 14, Pflaum as modified by Sata does not disclose a couch motor control in an operative connection with the translating means to operate the subject supporting means at a selected speed. Ozaki discloses this (column 7, lines 26-41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Pflaum to have a table motor control in operative connection with the translating means to operate the subject table at a selected speed,

because this is necessary in all helical or spiral scanning systems to ensure obtaining usable data, as taught by Ozaki.

10. With respect to claims 4 and 15, Pflaum as modified by Sata and Ozaki discloses a system controller (Pflaum - 15) which controls the x-ray source controller to pulse the radiation by the x-ray source at the selected angular orientation, and the couch motor control to translate the subject through the examination region in coordination with pulsing of the x-ray tube (Ozaki – column 7, lines 38-41).

11. With respect to claims 5 and 16, Pflaum discloses the system controller and the x-ray source controller cause the x-ray source to pulse at least one of 6 and 12 o'clock in each revolution (column 3, lines 21-26).

12. With respect to claims 6 and 17, Pflaum as modified by Sata discloses the radiation is pulsed at both 6 and 12 o'clock (Sata – column 12, lines 64-68).

13. With respect to claims 7 and 18, Pflaum discloses the x-ray radiation source controller pulses the radiation source at a plurality of the selected angular locations in each revolution (column 3, lines 47-52).

14. With respect to claims 8 and 19, Pflaum as modified by Sata discloses the angular locations may be freely selected to obtain the scanogram, which would include the angular locations being fixed every 9 degrees of rotation (Sata – column 6, line 66 - column 7, line 2).

15. With respect to claims 9 and 20, Pflaum discloses a means (17) for calculating subject contour.

16. Claims 10, 11, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum (USPN 6,198,790 B1) in view of Sata (USPN 5,412,702) and Ozaki (USPN 6,763,082 B2) as applied to claims 1-9 and 13-20 above, and further in view of Tachizaki et al. (USPN 6,901,129 B2).

17. With respect to claims 10 and 21, Pflaum as modified by Sata and Ozaki discloses the transmitted radiation received by the detection means is indicative of an attenuation of the radiation, but does not disclose a means for determining a radiation dose, the radiation dose being determined based on an attenuation data and subject contour. Tachizaki et al. disclose a means for determining a radiation dose, the radiation dose being determined based on an attenuation data and subject contour (column 6, lines 16-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Pflaum/Sata/Ozaki to include a means for determining a radiation dose, for patient safety and to ensure quality imaging.

18. With respect to claim 11, Pflaum as modified above discloses a means for converting the dose calculations into parameters for a computed tomography scan (Tachizaki et al. - column 6, lines 48+).

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum (USPN 6,198,790 B1) in view of Sata (USPN 5,412,702) as applied to claim 1 above, and further in view of Brunnett (USPN 7,023,952 B2).

Art Unit: 2882

20. With respect to claim 12, Pflaum discloses a stationary gantry defining the subject receiving examination region (6) and a rotating gantry (10) which rotates about the examination region, but does not disclose one of air bearings and magnetic bearings for supporting the rotating gantry in the stationery gantry. Brunnett discloses air bearings (40) for supporting the rotating gantry (24) in the stationary gantry (22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use air bearings in the CT apparatus of Pflaum/Sata, to enhance longevity of the apparatus and to enable faster rotation, as taught by Brunnett (column 1, lines 6-18).

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Yun whose telephone number is 571 272-2497. The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Julie Yun
Examiner
Art Unit 2882

March 29, 2007